

CHAPTER 1

UNDERGRADUATE ENROLLMENT

Overview

Differences in completion of bachelor's degrees in science and engineering by sex, race/ethnicity, and disability status are related to differences in high school completion rates, college enrollment rates, college persistence and attainment rates, and choice of undergraduate major. In general, blacks, Hispanics, and American Indians are less likely than whites and Asians to graduate from high school, to enroll in college, and to graduate from college. Among those who do enroll in or graduate from college, however, they are about as likely as whites to choose science and engineering fields. Asians are more likely than other racial/ethnic groups to choose science and engineering fields. Similarly, persons with disabilities are less likely than those without disabilities to graduate from high school, to enroll in college, and to graduate from college; however, they are about as likely as those without disabilities to major in science and engineering. Women, on the other hand, are more likely than men to graduate from high school and to enroll in college; although they are as likely as men to graduate from college, they are less likely to choose science and engineering fields.

High school completion

This section looks at high school completion rates among people aged 25 to 29, since high school completion is usually a prerequisite for college enrollment.¹

Women

Before 1980, the educational attainment of men was higher than that of women at all educational levels. In the early 1980s women equaled men, and, by the late 1980s,

they surpassed men in terms of completion of a high school education. In 1998, women aged 25 to 29 were somewhat more likely than men to have graduated from high school—90 percent of women versus 87 percent of men. (See appendix table 1-2.)

Minorities

Racial/ethnic differences in high school completion rates contribute to differences in college enrollment. Some of the factors that may be related to the likelihood of staying in school include family income, English-speaking ability, geographic region of residence, age, and immigration status (NCES 1999c).

Hispanics, blacks, and American Indians have lower high school completion rates than do whites, and Hispanics (of any race) have the lowest high school completion rates. In 1998, 63 percent of Hispanics aged 25 to 29 were high school graduates, compared to 94 percent of their white counterparts. Although Hispanics made gains in high school completion in the 1970s, their completion rates have changed little since 1982. (See appendix table 1-2.) This group's low high school completion rates are partly explained, however, by the large number of foreign-born Hispanics who entered the United States without a high school education. Among Hispanics aged 25 to 29 who were born outside the 50 states and Washington, D.C., 51 percent had completed high school compared with 83 percent of those born in the United States. (See text table 1-1.)

Gains in high school completion by blacks in recent years have narrowed the educational gap between whites and blacks. In 1971, 82 percent of whites and 59 percent of blacks aged 25 to 29 had completed high school. By 1998, 94 percent of whites and 88 percent of blacks in that age range had completed high school. (See appendix table 1-2 and figure 1-1.)

Annual data from the U.S. Bureau of the Census's Current Population Survey are not available for American Indians and Asians because of small sample sizes. However, data from the decennial census indicate that, among

¹ Educational attainment data in this report are for people between the ages of 25 to 29. This age range is used since some minority groups take longer on average to complete their bachelor's degrees. Older age groups are excluded because educational attainment is typically lower among them. Appendix table 1-1 shows educational attainment by age group, sex, and race/ethnicity.

Text table 1-1.

Percentage of 25- to 29-year-olds who had completed high school, by race/ethnicity and nativity: March 1998

Nativity	Total ²	White, non-Hispanic	Black, non-Hispanic	Hispanic
Total ¹	88.1	93.6	88.2	62.8
Born outside 50 states and DC.....	66.0	92.6	86.7	51.0
Born in 50 states and DC....	92.0	93.7	89.1	82.7

¹ Includes a small proportion for whom country of origin is unknown.² Includes racial/ethnic groups other than those listed.

NOTE: People born in Puerto Rico and the U.S. territories are grouped with those born in other countries.

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, 1998.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2000

Text table 1-2.

Percentage of persons 25 years old and over who had completed high school, by race/ethnicity: April 1990

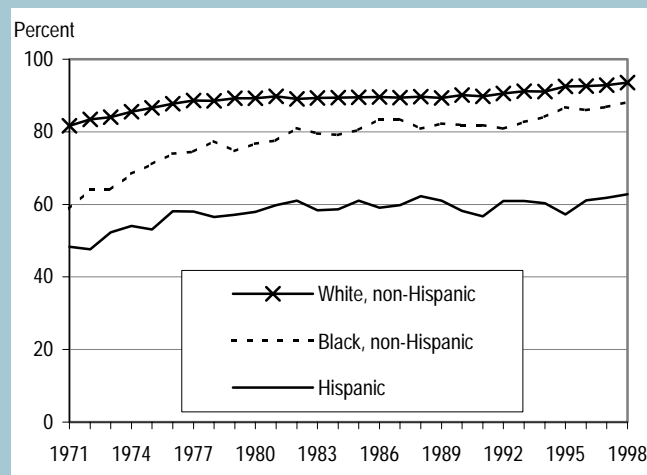
Race/ethnicity	Percent
Total.....	75.2
White.....	77.9
Asian/Pacific Islander.....	77.5
Black.....	63.1
Hispanic.....	49.8
American Indian/Alaskan Native.....	65.5

NOTE: White, black, Asian/Pacific Islander, and American Indian/Alaskan Native include persons of Hispanic origin.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Decennial Census. In U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics: 1998* (NCES 1999-036).

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2000

Figure 1-1.

Percentage of 25- to 29-year-olds who have completed high school, by race/ethnicity: 1971-98

SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys, various years.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2000

those 25 and older, a lower percentage of American Indians than of whites were high school graduates in 1990 (Pavel, Swisher, and Ward 1995). In that year, 66 percent of American Indians, compared with 78 percent of whites (including those of Hispanic origin), had completed 4 or more years of high school. (See text table 1-2.) Equal

percentages (78 percent) of Asians and whites aged 25 and older in 1990 had completed 4 or more years of high school.

Students with disabilities

A higher percentage of students with disabilities than of those without disabilities drop out of high school. Among students who were eighth graders in 1988, 10 percent of those with disabilities and 6 percent of those without disabilities had dropped out of school by 1994. (See appendix table 1-3.) Students with disabilities were less likely than those without to have received a high school diploma by 1994 and were more likely to be enrolled in high school or working toward a General Education Development (GED) credential. Dropout and graduation rates vary by type of disability, with those with visual, hearing, or speech impairments least likely to have dropped out. Those with orthopedic impairments, learning disabilities, or “other” disabilities (including health problems, emotional problems, mental retardation, or other physical disabilities) were most likely to have dropped out.

College enrollment rates

College enrollment rates differ between men and women and among the various racial/ethnic groups. Women are more likely than men, and whites and Asians are more likely than other racial/ethnic groups, to enroll in college. The reasons for these different rates of enrollment are varied, with the literature citing such factors as differences in academic preparation or family characteristics (that is,

family structure, parental education, and family income) (NCES 1998b). Discussion of racial/ethnic and sex differences in elementary and secondary education, especially as they relate to mathematics and science education, can be found in the *Science & Engineering Indicators—2000* (NSB 2000) as well as in several National Center for Education Statistics publications (e.g., NCES 1997a,b,c,d,f and NCES 1998a).

Women

Women are more likely than men to attend college. Among those aged 25 to 29 in 1998 who had completed high school, women were more likely than men to have attended college—68 percent of women and 63 percent of men had completed some college. (See appendix table 1-4.) Women are also more likely than men to enroll in college immediately following high school. Among 1996 high school completers aged 16 to 24, 70 percent of women compared to 64 percent of men were enrolled in college the October after completing high school (NCES 1999b, p. 209.)

In 1996, women accounted for more than half (56 percent) of undergraduate enrollment at all institutions; this was up slightly from 55 percent in 1990. (See appendix table 1-5.) The numbers of both women and men enrolled in college peaked in 1992, declined for several years, then increased again in 1996. The numbers of first-time first-year students enrolled at all institutions peaked in 1991, dropped through 1994, and increased in 1995 and 1996. This upward trend in first-time first-year enrollment suggests that total enrollment may continue to increase in the near future. (See appendix table 1-6.)

Minorities

Blacks and Hispanics are less likely than other racial/ethnic groups to attend college. Among high school graduates aged 25 to 29 in 1998, 68 percent of whites, 57 percent of blacks, and 52 percent of Hispanics had completed some college. (See appendix table 1-4 and figure 1-2.)

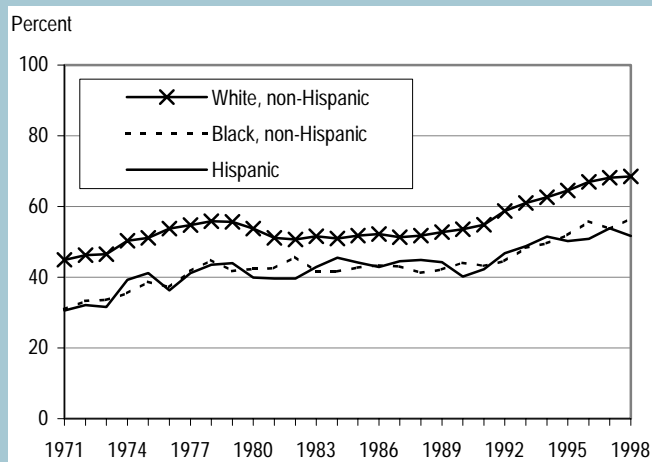
Blacks and Hispanics were also less likely than whites to enroll in college immediately following high school. The percentages of black and Hispanic high school graduates who had enrolled in college the October after completing high school rose from 41 and 49 percent, respectively, in 1972–74 to 55 and 57 percent, respectively, in 1995–97.² The percentage of white high school

graduates who had enrolled in a postsecondary institution the October after completing high school rose from 50 percent in 1972 to 68 percent in 1997 (NCES 1999a, p. 140).³

Among U.S. citizens and permanent residents, non-white enrollment in undergraduate programs increased over the last two decades, both in absolute numbers and as a percentage of total undergraduate enrollment. The number of black students rose from approximately 1.1 million in 1990 (9.5 percent of the total undergraduate enrollment) to approximately 1.4 million in 1996 (10.9 percent of the total undergraduate enrollment). (See appendix table 1-5.) Similarly, the number of Hispanic undergraduates grew from about 0.9 million (7.2 percent) in 1990 to about 1.2 million (9.8 percent) in 1996, while the number of American Indian students increased from around 95,000 (0.8 percent) to around 123,000 (1.0 percent) over the same time period. Concurrently, the number of Asian undergraduates grew from approximately 507,000 (4.2 percent) to approximately 722,000 (5.8 percent). Since 1992, more than half the undergraduate students in each racial/ethnic group have been women. (See appendix table 1-5.)

³ Due to relatively small sample sizes, NCES included American Indians and Asians in the total but did not list their individual completion rates.

Figure 1-2.
Percentage of 25- to 29-year old high school completers with some college, by race/ethnicity: 1971–98



SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Surveys, various years.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2000

² Because both the black and Hispanic enrollment rates fluctuated greatly over this time period due to small sample sizes, a 3-year average is used.

For all racial/ethnic groups other than white, the numbers of both male and female undergraduates increased between 1990 and 1996. Declining enrollments for whites may be attributed to declines in the college-age population. The white college-age population (18- to 24-year-olds) has been steadily declining since a 1981 peak (with the exception of a brief upturn in 1993). (See figure 1-3.) The black college-age population size remained fairly constant from 1986 to 1996, while the Hispanic college-age population steadily increased. First-time first-year enrollment increased for men and women in all racial/ethnic groups between 1995 and 1996 (and for all but black women between 1994 and 1995) suggesting continued increases in total enrollment over the next several years. (See appendix table 1-6.)

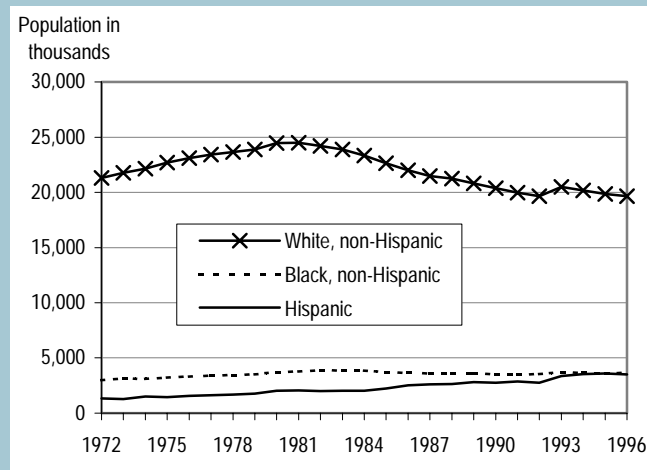
Students with disabilities

Among 1988 eighth graders who completed high school, students with disabilities were less likely (63 percent) than those without disabilities (72 percent) to have enrolled in postsecondary education by 1994. (See appendix table 1-7.) Findings from the National Education Longitudinal Study indicate that students with disabilities may be less academically prepared for college than those without disabilities: they were more likely to have taken remedial courses, less likely to have taken advanced placement courses, and had lower grade point averages and lower SAT scores (NCES 1999d). Among 1998 college freshmen, students with disabilities were more likely than those without to have earned Cs and Ds in high school; were less likely to have met the recommended years of high school study in mathematics, biological sciences, and physical sciences; and to have spent more time between high school graduation and entry into college (Henderson 1999).

Students with disabilities were roughly 6 percent of those enrolled in undergraduate institutions in 1996. (See figure 1-4.) They reported a range of disabilities—visual, hearing, speech, and orthopedic (mobility) impairments; learning disabilities; and other disabilities or impairment—signifying a range of needs and a range of special accommodations that may be required (SRI International 1997). Students with learning disabilities comprised the largest group of students with disabilities.

On average, undergraduate students with disabilities were older than those without; however, there were no statistically significant differences between students with and without disabilities in full-time enrollment or receipt of financial aid. About half of both were enrolled full time and about half of both received financial aid. (See appendix table 1-8.)

Figure 1-3.
The U.S. population aged 18 to 24 years old: October 1972 to 1996



NOTE: Hispanics may be of any race.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2000

Two-year institutions

Many of those who enroll in 2-year colleges are seeking certificates or associate's degrees, but some find 2-year colleges an inexpensive means of completing the first 2 years of a college education before transferring to a 4-year school. About 22 percent of those postsecondary students who entered a 2-year institution in 1989–90 transferred to a 4-year institution (NCES 1998b).⁴

About 44 percent of all undergraduates are enrolled in 2-year colleges (see appendix tables 1-5 and 1-9), but relatively few earn associate's degrees and few are seeking degrees in science and engineering. Among beginning students at 2-year colleges in the 1989–90 school year, only 24 percent had earned an associate's or higher degree by 1994 (NCES 1998b) and, as discussed in chapter 2, only 13 percent of associate's degrees are in science and engineering. Most of these degrees are in either computer science or engineering technologies.

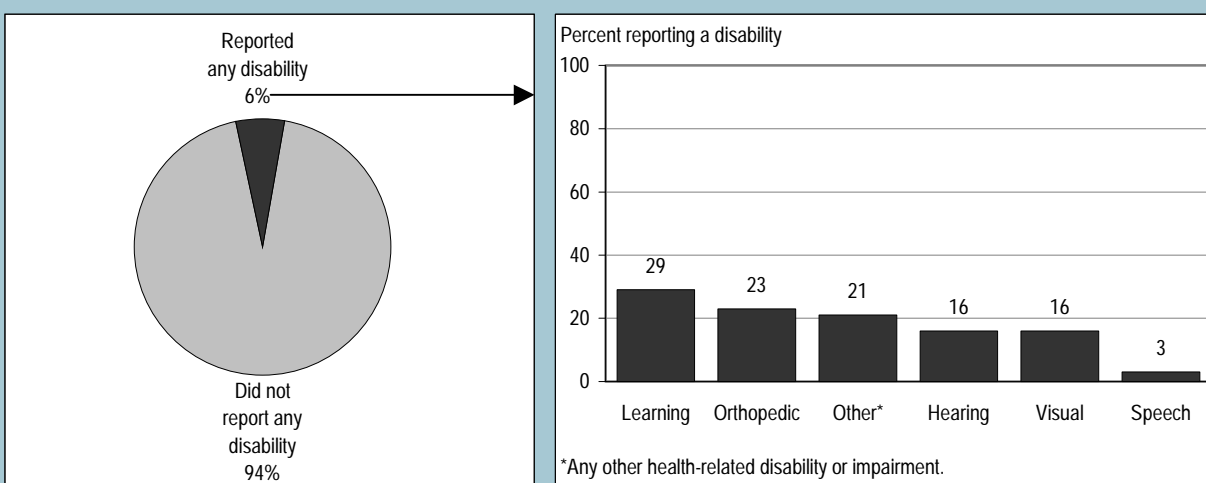
Women

Total undergraduate enrollment in 2-year colleges increased in 1996 after dropping for several years. More specifically, full-time enrollment of both men and women

⁴ These data are from the U.S. Department of Education's Beginning Postsecondary Students Longitudinal Study. See NCES (1997e) for a detailed discussion of transfer behavior.

Figure 1-4.

Percentage of 1995-96 undergraduates who reported a disability, and among those with disabilities, the percentage reporting each disability type: 1996



NOTE: Percentages do not sum to 100 because some students reported multiple disabilities.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1995-96 National Postsecondary Student Aid Study (NPSAS:96), in *Students with Disabilities in Postsecondary Education: A Profile of Preparation, Participation and Outcomes* (NCES 1999-187).

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2000

in 2-year colleges, which had declined since 1992, increased in 1996. Women accounted for more than half (57 percent) of total enrollment in 2-year colleges in 1996; this was the same proportion as in 1990. (See appendix table 1-9.)

Where Are Women Enrolled?

Men and women differ little in terms of the Carnegie classification⁵ of the schools in which they are enrolled: a little less than half of both are enrolled in 2-year institutions, about one-fifth are enrolled in master's granting (comprehensive) institutions, and a little more than one-tenth are in the Nation's top (Research I) institutions. (See text table 1-3.)

⁵ The Carnegie classification of colleges and universities groups institutions into clusters with similar missions and by the highest level of degree conferred. The 1994 Carnegie classification system comprises the following categories: Research universities I, Research universities II, Doctoral universities I, Doctoral universities II, Master's (comprehensive) colleges and universities I, Master's (comprehensive) colleges and universities II, Baccalaureate (liberal arts) colleges I, Baccalaureate colleges II, Associates of arts colleges, and Specialized institutions (The Carnegie Foundation for the Advancement of Teaching 1994).

Minorities

Higher percentages of Hispanic and American Indian undergraduates than of other racial/ethnic groups are enrolled in 2-year colleges—54 percent of Hispanics and 52 percent of American Indians compared with 46 percent of blacks, 45 percent of Asians, and 42 percent of whites. (See appendix tables 1-5 and 1-9.)

The number of Asians, blacks, Hispanics, and American Indians (both men and women) enrolled in 2-year institutions has been increasing since 1990. The number of white women enrolled in 2-year institutions has been declining since 1992, while the number of white men increased slightly in 1996 after dropping from 1992 to 1995.

Students with disabilities

Students with disabilities are more likely to enroll in 2-year colleges than those without disabilities. Of 1988 eighth graders who were enrolled in postsecondary education by 1994, approximately 45 percent of those with disabilities enrolled in public 2-year institutions compared with 33 percent of those without disabilities (NCES 1999d, p. 30). Type of disability makes little if any difference in the choice of 2-year versus 4-year institutions, except for those with orthopedic impairments, who are more likely to enroll in 4-year institutions. (See appendix table 1-7.)

Text table 1-3.

Undergraduate enrollment at all academic institutions, by sex and Carnegie classification: fall 1996

Sex	Total	Research I	Research II	Doctorate granting	Comprehensive	Engineering	Liberal arts	2-year institutions	Other
Total	100.0	11.7	4.2	7.6	20.6	0.4	8.3	44.1	3.2
Women.....	100.0	10.6	3.8	7.4	21.2	0.2	8.7	45.0	3.1
Men.....	100.0	13.1	4.7	7.8	19.8	0.7	7.7	42.9	3.3

SOURCE: Tabulations by National Science Foundation/Division of Science Resources Studies; data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2000

Where Are Minorities Enrolled?

Racial/ethnic groups differ greatly in the types of institutions in which undergraduates enroll. For example, Asians are far more likely than other groups to enroll in Research I institutions: 21 percent of Asian undergraduates versus 7 to 12 percent of other racial/ethnic groups are enrolled in Research I institutions. Black and Hispanic undergraduates have the lowest percentages enrolled in Research I institutions. Higher percentages of black and white undergraduates than of other groups are enrolled in comprehensive and liberal arts institutions. American Indian and Hispanic undergraduates are the most likely of the racial/ethnic groups to enroll in 2-year institutions. (See text table 1-4.)

The majors chosen by students with disabilities attending 2-year institutions differed relatively little from those of their counterparts without disabilities: 33 percent of students with disabilities and 36 percent of the general population majored in science, mathematics, engineering, or technology (SRI International 1997, p. II-8).

Four-year colleges and universities

More than half (56 percent) of all undergraduates, and almost three-fourths (73 percent) of full-time undergraduates, were enrolled in 4-year colleges in 1996. (See appendix tables 1-5 and 1-10.) The number of students enrolled in 4-year institutions increased in 1995 and 1996 after having dropped for several years.

Women

The number of women enrolled at 4-year institutions—both total and full time—increased in 1996, while the number of men decreased. Women were 55 percent of

all undergraduate students at 4-year institutions in 1996, up from 53 percent in 1990. (See appendix table 1-10.)

Minorities (U.S. citizens and permanent residents)

A majority of black (54 percent), Asian (55 percent), and white (58 percent) undergraduate students were enrolled in 4-year institutions in 1996. (See appendix tables 1-5 and 1-10.) Although the numbers of white men and white women enrolled in 4-year institutions have been declining since the early 1990s, the numbers of Asian, black, Hispanic, and American Indian men and women enrolled in 4-year institutions have been increasing—with one exception. The number of black men enrolled in 4-year institutions, which rose in the early 1990s, stayed fairly constant between 1993 and 1996.

The numbers of first-time first-year undergraduate students enrolled at 4-year institutions increased in both 1995 and 1996. (See appendix table 1-11.) The increases occurred among men and women of all racial/ethnic groups, again with the exception of black men. The number of first-time first-year undergraduate black men dropped slightly in 1995, but increased again in 1996; it did not, however, regain its 1994 level.

Field choice

The Higher Education Research Institute at the University of California–Los Angeles annually conducts a survey of freshmen in 4-year colleges and universities. These data show a large difference between men and women, but little difference by race/ethnicity (with the exception of Asians), in intentions to major in science and engineering. In 1998, about one-third of white, black, Hispanic, and American Indian freshmen and 43 percent of Asian freshmen intended science and engineering

Text table 1-4.

Undergraduate enrollment at all academic institutions, by race/ethnicity and Carnegie classification: fall 1996

Race/ethnicity	Total	Research I	Research II	Doctorate granting	Comprehensive	Engineering	Liberal arts	2-year institutions	Other
Total	100.0	11.7	4.2	7.6	20.6	0.4	8.3	44.1	3.2
White, non-Hispanic.....	100.0	12.0	4.8	7.8	20.6	0.4	8.8	42.5	3.1
Asian/Pacific Islander.....	100.0	21.4	3.6	6.6	16.4	0.4	3.8	45.4	2.4
Black, non-Hispanic.....	100.0	7.4	2.6	7.3	23.3	0.3	9.4	46.2	3.3
Hispanic.....	100.0	7.6	1.8	6.2	19.9	0.6	6.5	53.8	3.6
American Indian/Alaskan Native.....	100.0	9.7	4.5	6.5	18.1	0.2	5.3	52.4	3.2

SOURCE: Tabulations by National Science Foundation/Division of Science Resources Studies; data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2000

majors (NSB 2000). White, black, Hispanic, and American Indian freshmen differed little in their choice of field—roughly equal percentages of each group intended majors in the natural sciences, social sciences, and engineering. Black and Asian freshmen, though, were more likely than other groups to plan majors in math and computer sciences, and Asian freshmen were more likely than other groups to plan majors in engineering. Within each racial/ethnic group, women were less likely than men to intend to major in science and engineering.

Students with disabilities are as likely as students without disabilities to choose science and engineering majors at 4-year institutions. Among those in 4-year colleges in 1993, about 30 percent of both the general population and of students with disabilities majored in science, mathematics, engineering, or technology (SRI International 1997). Similarly, among undergraduates in the 1995–96 school year, roughly equal percentages of students with and without disabilities were majoring in science and engineering. (See appendix table 1-12.)

Engineering enrollment

Unlike other fields, engineering programs generally require students to declare a major as freshmen (NSB 2000). Data on engineering enrollments and degrees are available from the Engineering Workforce Commission's annual survey of accredited engineering schools throughout the United States. These data provide information on trends in total and first-time engineering enrollment by sex and by race/ethnicity. Overall, total undergraduate engineering enrollment increased in 1997 following steady declines from 1993 through 1996.

Women

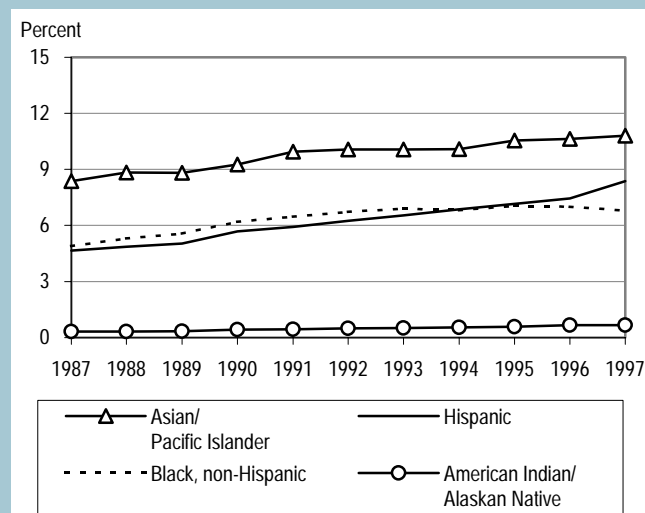
Women were 19 percent of total undergraduate enrollment in engineering programs in 1997, up from 15 percent a decade earlier. (See appendix table 1-13.) They were a slightly higher percentage (20 percent) of full-time first-year engineering enrollment. (See appendix table 1-14.) The numbers of women enrolled in undergraduate engineering programs increased every year from 1989 to 1997, while the number of men declined every year between 1990 and 1996, with the exception of 1992.

Minorities

Enrollment of white students in engineering followed the general pattern of total undergraduate engineering enrollment, decreasing from 1987 through 1996 and rising in 1997, but the trends for other racial/ethnic groups followed different patterns. Hispanic, American Indian, and Asian enrollment in engineering generally increased between 1987 and 1997. Black enrollment in engineering peaked in 1993 and dropped in 3 of the 4 years from 1994 to 1997. Blacks were the only racial/ethnic group in which undergraduate engineering enrollment went down from 1996 to 1997; the decrease was, however, less than 1 percent. (See appendix table 1-13.) Moreover, recently released data from the Engineering Workforce Commission show an 8.4 percent increase in black engineering enrollment between 1997 and 1998 (NACME 1999).

The percentages of undergraduates enrolled in engineering programs who are Hispanic, American Indian, and Asian increased from 1987 to 1997, while the percentage of whites decreased. The percentage of blacks rose from 1987 to 1993, but remained relatively constant from 1994 through 1997. (See figure 1-5.)

Figure 1-5.
Percentage distribution of minority undergraduate engineering students, by race/ethnicity: 1987–97



SOURCE: Engineering Workforce Commission of the American Association of Engineering Societies, special tabulations.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2000

Undergraduate persistence and attainment

Two sources of data, the U.S. Bureau of the Census's Current Population Survey (CPS) and the National Center for Education Statistics's Beginning Postsecondary Students Longitudinal Study (BPS), provide information on the undergraduate persistence and attainment of women and minorities. The March supplement to the CPS provides estimates of long-term trends in the educational attainment of the U.S. population.

BPS provides data on the persistence toward and completion of bachelor's degrees of undergraduate students. This survey followed a group of students first enrolled in undergraduate institutions in the 1989–90 school year through 1994. The data permit comparisons of differences by sex, race/ethnicity, and disability status in persistence toward a bachelor's degree. This survey found that some of the factors related to persistence include:

- age (those entering postsecondary education at younger ages are more likely to complete a bachelor's degree in 5 years than those entering at older ages);

- enrollment status (those who initially enroll on a full-time basis are more likely to complete their degree than those enrolled part time);
- socioeconomic status and parents' education (as these increase, so does likelihood of completion); and
- level of first institution (those who begin undergraduate programs in 4-year institutions are more likely to complete their degree than those who begin in 2-year institutions) (NCES 1998b).

Women

Women and men are about equally likely to graduate from college. Among those who were aged 25 to 29 in 1998 and who had completed high school, 32 percent of women and 30 percent of men had earned a bachelor's degree or higher. (See appendix table 1-15.)

Women are more likely than men to complete a bachelor's degree within 5 years. Among students who entered a bachelor's degree program in 1989, 50 percent of women compared to 41 percent of men had earned a bachelor's degree by spring 1994. (See text table 1-5.) Additionally, a higher percentage of men (31 percent) than of women (26 percent) had earned no degree and were no longer enrolled toward a bachelor's degree five years later.

Minorities

Blacks and Hispanics are less likely than whites to graduate from college. Among those who were aged 25 to 29 in 1998 and who had completed high school, 18 percent of blacks, 16 percent of Hispanics, and 34 percent of whites had earned bachelor's degrees or higher. (See appendix table 1-15 and figure 1-6.) Small sample sizes in the CPS do not permit reporting of data on the educational attainment of Asians and American Indians.

Black and Hispanic students are less likely than white and Asian students to complete a bachelor's degree within 5 years. Forty-eight percent of white students, 47 percent of Asian students, 34 percent of black students, and 32 percent of Hispanic students who entered a bachelor's degree program in 1989 had earned their degree by spring 1994. Thirty-seven percent of both black and Hispanic students, compared with 27 percent of white students and 26 percent of Asian students, had earned no degree and were no longer enrolled in a bachelor's program in 1994. (See text table 1-5.)

Text table 1-5.

Percentage distribution of 1989–90 beginning postsecondary students seeking bachelor's degrees, by persistence toward and completion of bachelor's and other degrees as of spring 1994, by sex and race/ethnicity

Sex and race/ethnicity	Completed a degree			Still enrolled for bachelor's ²	No degree, no longer enrolled toward bachelor's ³
	Completed bachelor's	Completed associate's ¹	Completed certificate ¹		
Sex					
Men.....	41.3	4.8	2.7	20.3	30.9
Women.....	50.3	5.4	4.0	14.6	25.7
Race/ethnicity					
White, non-Hispanic.....	48.1	4.9	3.3	16.6	27.0
Asian/Pacific Islander.....	46.8	5.3	0.6	21.8	25.5
Black, non-Hispanic.....	34.3	7.3	3.6	18.0	36.8
Hispanic.....	32.4	3.5	5.4	22.1	36.6
American Indian/Alaskan Native.....	--	--	--	--	--

¹ Includes only students who are no longer working toward a bachelor's degree but who had completed another type of degree or award.

² Includes students who had completed another type of degree or award but are still working toward a bachelor's degree.

³ Includes students who are no longer enrolled and students who are still enrolled but who are no longer working toward a bachelor's degree.

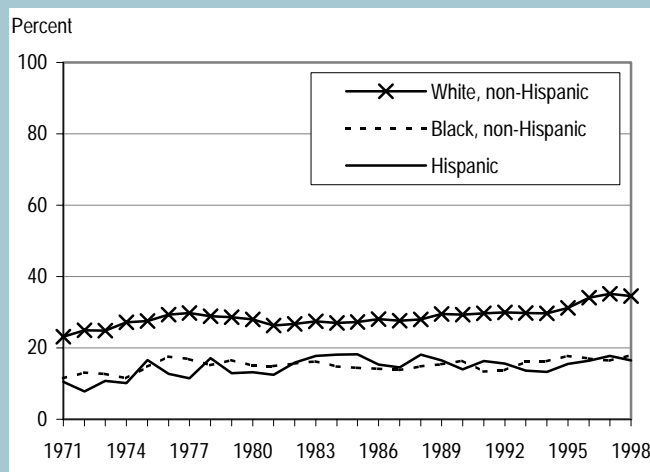
KEY: -- = insufficient number of cases.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *The Condition of Education 1998*, Supplemental Table 12-1 (NCES 98-013).

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2000

Figure 1-6.
Percentage of 25- to 29-year old high school completers who had completed college, by race/ethnicity: 1971–98



SOURCE: U.S. Department of Commerce, Bureau of the Census, March Current Population Survey, various years.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2000

Small sample sizes in both the CPS and BPS do not permit reporting of data on the undergraduate persistence and attainment of American Indian students. Data from the National Collegiate Athletic Association Division I colleges and universities in 1996, however, indicate that American Indians had the lowest graduation rate at these institutions of any racial/ethnic group (Wilds and Wilson 1998). American Indian students are disproportionately likely to be single parents, have dependents, be financially independent of their parents, and enroll part time part year—all characteristics associated with reduced likelihood of degree completion (NCES 1998a).

Students with disabilities

Students with disabilities are less likely than those without disabilities to be enrolled in a bachelor's degree program or to have completed a bachelor's degree within 5 years. Fifty-three percent of students with disabilities who were enrolled in the 1989–90 academic year were still enrolled or had attained a degree by 1994 compared

with 64 percent of those without disabilities. (See appendix table 1-16.) Conversely, a higher proportion of those with disabilities (47 percent) than of those without (36 percent) had left college without earning a degree.

References

- The Carnegie Foundation for the Advancement of Teaching. 1994. *A Classification of Institutions of Higher Education*. Princeton, NJ: The Carnegie Foundation.
- Henderson, Cathy. 1999. *Update on College Freshmen With Disabilities*. Washington, DC: American Council on Education/HEATH Resource Center.
- National Action Council for Minorities in Engineering, Inc. (NACME). 1999. *NACME News* Summer:1.
- National Center for Education Statistics (NCES). 1997a. *The Condition of Education 1997*. By Thomas M. Smith, Beth Aronstamm Young, Yupin Bae, Susan B. Choy, and Sonia Geis. NCES 97-388. Washington, DC: U.S. Government Printing Office.
- . 1997b. *NAEP 1996 Mathematics Report Card for the Nation and the States*. By C.M. Reese, K.E. Miller, J. Mazzeo, and J.A. Dossey. NCES 97-488. Washington, DC: U.S. Department of Education.
- . 1997c. *NAEP 1996 Science Report Card for the Nation and the States*. By Christine Y. O'Sullivan, Clyde M. Reese, and John Mazzeo. NCES 97-497. Washington, DC: U.S. Department of Education.
- . 1997d. *Profiles of Students With Disabilities as Identified in NELS:88*. By Robert Rossi, Jerald Herting, and Jean Wolman. NCES 97-254. Washington, DC: U.S. Department of Education.
- . 1997e. *Transfer Behavior Among Beginning Postsecondary Students: 1989-94*. By Alexander C. McCormick. NCES 97-266. Washington, DC: U.S. Department of Education.
- . 1997f. *Understanding Racial-Ethnic Differences in Secondary School Science and Mathematics Achievement*. By Samuel S. Peng, Dee Ann Wright, and Susan T. Hill. NCES 95-710. Washington, DC: U.S. Department of Education.
- . 1998a. *American Indians and Alaska Natives in Postsecondary Education*. By D. Michael Pavel, Rebecca Rak Skinner, Elizabeth Farris, Margaret Cahalan, and John Tippeconnic. NCES 98-291. Washington, DC: U.S. Government Printing Office.
- . 1998b. *The Condition of Education 1998*. By John Wirt, Tom Snyder, Jennifer Sable, Susan P. Choy, Yupin Bae, Janis Stennett, Allison Gruner, and Marianne Perie. NCES 98-013. Washington, DC: U.S. Government Printing Office.
- . 1999a. *The Condition of Education 1999*. NCES 1999-022. Washington, DC: U.S. Government Printing Office.
- . 1999b. *The Digest of Education Statistics: 1998*. NCES 1999-036. Washington, DC: U.S. Government Printing Office.
- . 1999c. *Dropout Rates in the United States: 1997*. By Phillip Kaufman, Steve Klein, and Mary Frase. NCES 1999-082. Washington, DC: U.S. Department of Education.
- . 1999d. *Students With Disabilities in Postsecondary Education: A Profile of Preparation, Participation, and Outcomes*. By Laura Horn and Jennifer Berkold. NCES 1999-187. Washington, DC: U.S. Department of Education.
- National Science Board (NSB). 2000. *Science & Engineering Indicators—2000*. NSB 00-1. Arlington, VA.
- Pavel, Michael, Karen Swisher, and Marlene Ward. 1995. "Special Focus: American Indian and Alaska Native Demographic and Educational Trends." In Deborah J. Carter and Reginald Wilson, *Minorities in Higher Education 1994: Thirteenth Annual Status Report*, pp. 33-56. Washington, DC: American Council on Education.
- SRI International. 1997. "A Case Study of Persons With Disabilities Majoring in Science, Engineering, Mathematics, and Technology." Report prepared under contract for the National Science Foundation. Menlo Park, CA.
- Wilds, Deborah J., and Reginald Wilson. 1998. *Minorities in Higher Education, 1997-98: Sixteenth Annual Status Report*. Washington, DC: American Council on Education.